

This document contains information  
referring to Project **GUSTO**

GUE-0086  
Cy 2 of 8  
15 January 1959

**MEMORANDUM FOR THE RECORD:**

**SUBJECT: Comparison Study of Proposed Follow-on Vehicle**

1. This report represents an initial comparison study of the two proposed follow-on vehicles, Convair's Super Hustler and Lockheed's A-3. The evaluation of these two proposals by the ARDC factor analysis board has been considered in this study.

2. In reviewing these vehicles, it appears we will have to settle for somewhat less than optimum requirements. The evaluation is based on the following references:

(a) Memo for Record, Subject: "Follow-On Operational Considerations Recommendations," dated 15 January 1959 (TAB "A").

(b) Memo for Record, Subject: "Follow-On Evaluation Criteria," dated 15 January 1959 (TAB "B").

3. Operational Comparison

<u>Performance</u>	<u>Super Hustler</u>	<u>A-3</u>
1. Speed	Mach 4.0	Mach 3.2
2. Range		
(a) W/O refueling	4150 NM	25X1D
(b) With refueling	5150 NM	
3. Alt	90,000 ft.	90,000 ft.
4. <u>Employment</u>	Requires B-58 carry. Retrieve overseas. Possible launch base overseas cannot take-off on its own.	Requires launch & retrieve base overseas. Requires inflight refueling. Can take off on its own.
5. <u>Radar Immunity</u>	Lessened due to aircraft design & wing notch concept.	UN- Very likely--due to no design effort to decrease detection probability.
6. <u>Infra-red Immunity</u>	Considered	Not considered
8. <u>Turn Around Time</u>	8 - 12 hours	3 - 4 hours

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<u>Performance (Cont'd)</u>	<u>- 2 -</u> <u>Super Mustang</u>	<u>A-3</u>
9. <u>System Availability</u>	Not considered	Not considered
10. <u>Nav System</u>	Inertial Guidance System (Estimate Max. 5NM error) (at end of 4000 NM)	Deficient—Similar to that of U-2.
11. <u>Fatigue Factor</u>	Lessened by capsule concept and comfortable cockpit environment.	Greater—must wear pressure suit, etc.
12. <u>Escape System</u>	Escape Capsule—Feasible and desirable. Better survival capability.	Minimum acceptable by USAF standards.
13. <u>Pay Load Capability</u>	560 lbs. Two areas 36.5 cu. ft. <u>25.0</u> cu. ft. Total 61.5 cu. ft.	215 lbs. 58.2 cu. ft.
14. <u>Logistics</u>		

It is difficult to compare the two vehicles since very little is known about the special ground handling equipment, fuels, retrieve procedures, etc. The following is a rough estimate of requirements.


	<u>Super Mustang</u>	<u>A-3</u>
a. <u>Maintenance</u>	Equivalent of operating 4 U-2's per single mission	Equivalent of operating 2 U-2's for single mission
b. <u>Ground Handling</u>	Unknown	Unknown
c. <u>Time Estimates</u>		
(a) Maintenance - Same as above for given unit,		Same as above for given unit.
(b) Sortie Rate - one per day.		2 per day.
(c) Turn around - 8-12 hrs. depending on retrieve		3-4 hrs.
(d) In commission rate - 50% U-2.		Same as U-2
d. <u>Logistics</u>	Double Qty.	Singular
	1. Fuel	
	2. Ground equip.	
	3. Personal equip.	
	4. Hangar space	
	5. Cargo space etc.	
	6. Min. staging operations	Same as U-2

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4. As pertains to the desired criteria both vehicles are deficient. The super-hustler comes closer to meeting the criteria than the A-3. Since the A-3 is deficient in some of the most important areas such as: range, employment, radar immunity, navigation system, fatigue, escape and pay load areas, it is the opinion of operations that the super-hustler is superior to the A-3.

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